

Rejection Under 35 U.S.C. § 102(e)

Claim 12 stands rejected as being anticipated by U.S. Patent No. 5,693,239, issued to Wang et al. ("Wang"). As basis for the rejection, the Examiner asserts that Wang discloses polishing a work piece by applying an aqueous slurry comprising water, submicron particles such as boehmite, and an oxidizing agent. In light of the above amendment, the rejection under section 102(e) is respectfully traversed.

As amended, claim 12 iterates that the polishing is performed in a basic atmosphere. The instant specification, in Example 3, discloses that the slurry is suspended in a solution of potassium hydroxide, water, and another alcohol. In contrast, the slurries prepared according to the Wang disclosure are acidic suspensions. At column 3, lines 55 to 62, Wang discloses that compounds such as potassium hydrogen phthalate and ammonium hydrogen phthalate are included in the slurries. These compounds have at least two acid groups, and the pK_a of the first dissociable acid is not substantially larger than the pH of the polishing slurry composition. Accordingly, Wang teaches away from polishing in a basic atmosphere.

"A claim is anticipated [under 35 U.S.C. § 102(e)] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of

California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. Because Wang does not disclose polishing in a basic atmosphere, each and every limitation in claim 12 is not taught or suggested by Wang, and the rejection of that claim under 35 U.S.C. § 102(e) should be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

Claims 12 to 14, and 16 to 21 stand rejected as being unpatentable over Wang in view of U.S. Patent No. 5,445,807, issued to Pearson ("Pearson") and U.S. Patent No. 5,723,019, issued to Krusell et al. ("Krusell"). For the following reasons, these rejections are respectfully traversed.

The differences between Wang and claim 12 set forth above are incorporated herein by reference to avoid unnecessary repetition. In light of these differences, each and every limitation of claims 12 to 14, and 21 is not provided by Wang, and the rejection of claims 12 to 14, and 21 should also be withdrawn. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). It is also pointed out that neither Krussel nor Pearson provide a teaching or suggestion of polishing in a basic atmosphere. Krussel is directed to cleaning of a wafer, and not to a polishing method. Pearson is directed to

formation of aluminum compounds, but not the use of such compounds in a polishing step, and thus makes no mention of polishing in a basic atmosphere. Accordingly, the deficiencies of Wang are not provided for by either of the secondary reference, and the rejection of claims 12 to 14, and 21 can not stand.


Claim 16 as amended includes the limitation that the abrasive particles in the slurry consist essentially of boehmite. As mentioned above, neither Pearson nor Krusell disclose any type of slurry. Wang does disclose slurries that contain boehmite particles. However, the Wang slurries do not contain abrasive particles that consist essentially of boehmite. Rather, Wang slurries include submicron alpha-alumina particles as an essential and inventive component, in addition to substantially less abrasive particles, that may include aluminum oxide materials such as boehmite. Accordingly, the "consisting essentially of" limitation of claims 16 to 20 is not taught or suggested by any of the prior art references of record, and the rejection of claims 16 to 20 under 35 U.S.C. § 103(a) should be withdrawn.

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the prior art of record. Accordingly, favorable reconsideration of the newly-presented claims in light of the above remarks is courteously solicited. If the Examiner has

any comments or suggestions which could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

Respectfully submitted,

DATE: 24 June 1999



Ronald P. Kananen
Registration No. 24,104

RADER, FISHMAN & GRAUER, PLLC

Lion Building
1233 20th Street, N.W.
Washington, D.C. 20036
Tel: (202) 955-3750
Fax: (202) 955-3751